

TITLE: CHIN UP BAR ASSEMBLY WITH SLIDING AND SWIVELING  
HANDLES

BACKGROUND OF THE INVENTION

5 Chin up bars have been known for many years and in general include a cross bar which can be grasped by a user to do chin ups. The user's hands may be spaced at any desired width on the bar to exercise various muscles in the user's arms, back and chest.

More recently, chin up bars have been provided with handles which are slidable along the cross bar so as to adjust the spacing between the user's hands. Such sliding  
10 handles include a pin or similar structure received in one of a plurality of holes in the cross bar so as to lock the handles in a selected position. However, such pins are often difficult to actuate or release, and the spacing between the handles is limited to the pre-determined holes in the cross bar.

Therefore, the primary objective of the present invention is the provision of an  
15 improved chin up bar assembly.

Another objective of the present invention is the provision of a chin up bar assembly having handles which are slidably mounted on the cross bar and held in a selected position by the user's weight.

A further objective of the present invention is the provision of a chin up bar  
20 assembly having a pair of handles with swiveling handgrips.

Still another objective of the present invention is the provision of a method for setting a pair of chin up handles at a selected position along a cross bar using only the user's weight.

Still another objective of the present invention is the provision of a chin up bar  
25 assembly having sliding and swiveling handles.

Another objective of the present invention is the provision of a chin up bar assembly having handles which can be selectively positioned without the use of tools.

Still another objective of the present invention is the provision of an improved chin up bar assembly which is quickly and easily adjustable.

30 Yet another objective of the present invention is the provision of a chin up bar assembly which is economical to manufacture, and durable and safe in use.

These and other objectives will become apparent from the following descriptions of the invention.

#### BRIEF SUMMARY OF THE INVENTION

5           The chin up bar assembly of the present invention includes a cross bar and a pair of handles slidably mounted on the cross bar. The handles are pivotally mounted to the cross bar so as to be movable between locked and unlocked positions. In the unlocked position, the handles are slidable along the cross bar, and in the locked position the handles are prevented from sliding along the cross bar. The handles are held in a selected position  
10           along the cross bar by a user's weight. The handles are independently slidable along the cross bar. The handles include handgrips which swivel about a substantially vertical axis.

          The present invention is also directed towards a method of setting a pair of chin up handles at a selected position along a cross bar. The method includes the initial step of sliding each handle to a selected position along the bar, then moving each handle to a  
15           locked position using only the weight of the user so as to preclude sliding of the handles along the cross bar. The movement to the locked position is achieved by gripping a handgrip of each handle such that the weight of the user pivots a portion of the handle into frictional engagement with the cross bar. When the user is not hanging from the handles, the handles can be pivoted to an unlocked position disengaged from the cross bar to allow  
20           sliding movement of the handles along the cross bar.

#### BRIEF DESCRIPTION OF THE DRAWINGS

          Figure 1 is a perspective view of the chin up bar assembly of the present invention with the handles being in a locked position.

25           Figure 2 is a perspective view of the chin up bar assembly of the present invention with the handles being in an unlocked position.

          Figure 3 is a exploded view of the chin up bar of the present invention.

          Figure 4 is a sectional view taken along a vertical plane extending through one of the handles.

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## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The improved chin up bar assembly of the present invention is designated in the drawings by the reference numeral 10. The assembly 10 generally includes a cross bar 12 and a pair of handles 14 slidably mounted on the bar 12. Preferably, the cross bar 12 is a square tubular member, as shown in the drawings. However, it is understood that cross bar 12 may be round and/or solid.

As seen in Figure 3, a pair of end plates 16 each have a stub shaft 18 which matingly fits into the end of the cross bar 12 and is secured by a bolt 20 and a nut 22. The end plates 16 are adapted to be mounted to uprights (not shown) so as to support the cross bar 12 at a desired height above the ground or floor.

A pair of collars 24 are slidably mounted on the cross bar 12. Each collar 24 includes a pair of ears 26. Each collar 24 has a hole 27 in the lower surface thereof, as seen in Figure 4.

Each handle 14 includes an arm 28 with opposite first and second ends 30, 32. The arm 28 is received between the ears 26 of the collar 24, and pivotally secured thereto with a pin or bolt 34 and nut 36.

The first end 30 of the arm 28 includes a substantially vertically oriented tube or collar 38. Each handle 14 also includes a handgrip 40 supported by a shaft 42 journaled within the tube 38. Thus, the handgrips 40 swivel or pivot around the axis of the shaft 42. A bushing 44 is provided at the upper and lower ends of the tube 38. A thrust bearing 46 and washer 48 are provided at the upper end of the shaft 42, which is threaded so as to receive a nut 50. A cap 52 covers the spacer 46, washer 48 and nut 50.

A pin or bolt 54 extends upwardly through the second end 32 of the arm 28. The upper end of the pin or bolt 54 threadably receives a rubber bumper or cap 56.

In use, handles 14 are movable between a locked position, as shown in Figure 1, and an unlocked position, as shown in Figure 2. More particularly, each handle 14 pivots about the horizontal axis of the bolts 34. Before hanging from the handgrips 40, a user can slide the handles 14 to a selected position along the cross bar 12 simply by moving the handles 14 towards the unlocked position. The handles 14 are independently movable along the cross bar 12. When a user grasps the handgrips 40 and hangs, the user's weight automatically pivots the handles 14 about the substantially horizontal axis of the bolts 34 to

the locked position, wherein the cap 56 extends through the holes 27 in the bottom of the collars 24 so as to frictionally engage the bottom of the cross bar 12. The arm 28 functions as a fulcrum, with the user's weight exerting a downward force on the first end 30 of the arm and a corresponding upward force on the second end 32 of the arm 28. Thus, the handles 14 can be positioned anywhere along the cross bar 12, with the user's weight then automatically locking the handles 14 in the selected position.

During use, the handgrips 40 can also be swiveled about the substantially vertical axis of the shaft 42 so as to exercise different muscles in the user's arms, chest and back. The thrust bearing 46 allows for virtually no friction when the handgrips 40 are swiveled.

The invention has been shown and described above with the preferred embodiments, and it is understood that many modifications, substitutions, and additions may be made which are within the intended spirit and scope of the invention. From the foregoing, it can be seen that the present invention accomplishes at least all of its stated objectives.